



June 2, 2004

**Commonwealth of Kentucky**  
**Cabinet for Health and Family Services**  
**Department for Public Health**  
**Division of Public Health Protection and Safety**  
275 East Main Street HS1EB  
Frankfort, KY 40621  
(502) 564-7398

[http://chs.ky.gov/publichealth/index-environmental\\_programs.htm](http://chs.ky.gov/publichealth/index-environmental_programs.htm)

**Flood Recovery: Mold In Your Home.**



**Common Health Effects**

Common health effects of mold exposure include allergies, headaches, bronchitis, asthma attacks, lung irritation, and skin rashes. People with asthma or other pulmonary illnesses, compromised immune systems, infants, and the elderly are more likely to develop mold-related illness. People with concerns about mold-related illness should consult their physician. **The sooner that mold is removed, the lower the chance of long-term health effects.**

**Assess the Damage**

- You will need to find all the places where mold is growing in your home. If you smell mold, which tends to have a musty and earthy smell, then it is present.
- Look for **visible mold** growing on walls, ceilings, floors, carpeting, furniture, mattresses, curtains, books, papers, clothing, linens, etc. Remember to check all surfaces, not just those touched by floodwaters. Roof and window leaks and increased humidity resulting from a flood may cause mold to grow in other areas.
- Look for **hidden mold** behind furniture, under carpeting, under wood floors, behind and under cabinets, in closets, and in attics.

Look behind water-damaged sheetrock, wallpaper, and paneled walls, on insulation and wooden studs, above ceilings, and under crawl spaces. To check inside walls, remove damaged sheetrock or paneling and use a mirror and flashlight to look inside walls above the flood line.

- Check your air-conditioning and heating systems for damage, but remember to turn off electricity first. Discard water damaged filters. You may wish to hire a professional to inspect your system.

## **Cleaning up the Mold**

- People allergic to mold, people with asthma, etc. should not do the clean-up work.
- Remove and dispose of porous water damaged materials. Such materials include: sheetrock, fiberglass or cellulose insulation, carpets, mattresses, pillows, wallpaper and paneling, upholstered furniture, papers, books, and other porous materials.
- Clean hard nonporous surfaces such as floors, concrete or brick walls, countertops, plastic, and glass. Clean wood studs in areas where wallboard has been removed. Launder clothing, sheets, and towels.
- Valuable items such as books, wood furniture, or papers should be cleaned or discarded. Saving damaged items may require hiring professionals such as conservators who are familiar with cleaning and restoration techniques.

## **Cleaning/Removal Techniques and Disposal**

- Use personal protective equipment.  
During cleaning or removal work, spores are released into the air that *may* cause illness. For small areas of mold, use a dust mask that removes 95% of particulates (ask at your hardware or home improvement store for an N-95 rated gas mask), gloves and eye protection. Larger areas of mold require greater respiratory protection, and wearing disposable clothing should be considered. Shower immediately after cleaning or removal activities to wash mold dust from the skin, and launder clothing promptly.
- Clean hard surfaces using a three-step process.  
First, scrub the surface using a soap and water solution. Second, disinfect the surface using a solution of bleach (Clorox or Purex) and water (1 or 2 cups of bleach to 1 gallon of water). Make sure that 5.25% sodium hypochlorite is the only active ingredient. Scented bleach is fine, but **do not use it to purify drinking water**. Do not use dry bleach that does not contain chlorine. **Never** mix bleach with other cleaning agents, as this will produce toxic fumes. Always ventilate the area while cleaning and disinfecting by opening doors and windows. Third, dry the surface completely within 24-48 hours to prevent new growth.
- Control dust during removal of mold-contaminated materials.

Lightly wet the surface of materials to minimize the release of mold dusts. Do not mist, because misting can lead to higher humidity and promote growth in unaffected areas. Use of HEPA (High Efficiency Particulate Air) filtered vacuums to collect dust is also useful.

- Remove sheetrock and insulation to a minimum of 12 inches above the waterline. Check for wicking (upward movement) of moisture to higher levels. It may be less expensive to remove and replace sheetrock in 4 to 8 foot high sections.
- Place mold contaminated debris (wallboard, insulation) in sealed plastic bags to prevent the spread of mold spores. Dispose of waste according to local regulations.

### **If You Need To Hire Someone To Clean Up The Mold**

We recommend that you select a contractor who is experienced in removing mold from homes and who has the necessary safety equipment to do the job. We do not recommend that you test for mold before cleaning up. If you see or smell mold, you have it.

The contractor should:

- Isolate the work area from the other areas with plastic sheeting.
- Use negative air machines with High Efficiency Particulate Air (HEPA) filters to remove mold from the air.
- Provide workers with disposable clothing, eye protection, and respirators.

It is not necessary to sample the air for mold afterwards, but if you wish to do so, be sure that the consultant takes samples both inside **and** outside your home at the same time. The consultant should compare types and amounts of mold inside and outside. The inside air should be as clean or cleaner than the outside air.

### **How Do I Know When I'm Done?**

- Everything saved must be clean, free of visible mold, and dry. Do you still smell mold?
- Have all water damaged porous materials been discarded?
- Has the building been completely dried out? Did you check hidden areas?
- Have leaks been identified and repaired? (roofs, skylights, windows, etc.)?
- Has all visible mold been removed? Did you check for hidden mold?
- If you move back in and experience health problems, consult your physicians.

### **Other Disaster Assistance May Be Available**

- If you have flood damage but you have not registered for federal or state disaster assistance, please call 1-800-462-9029.

- If you have questions about preventing health problems after a flood, contact your local health department or the Department for Public Health at 1-502-564-7398.
- Copies of the American Red Cross/FEMA booklet *Repairing Your Flooded Home* are available from:

**FEMA Publication Storage and Distribution**  
**P.O. Box 2012**  
**8241 Sandy Court, Suite A**  
**Jessup, MD 20794-2012**  
**Phone: 1-800-480-2520**  
**Fax: 1-301-362-5335**

The American Red Cross references this booklet as: Publication Number ARC 4477. See your telephone book for the local chapter office.

---

### **Further Information Relating To Mold**

- “A Brief Guide to Mold, Moisture, and Your Home” – USEPA Summer 2002  
<http://www.epa.gov/iaq/molds/moldguide.html>
- USEPA Guide To Mold Remediation in Schools and Commercial Buildings (same principles would apply in many residential cases).  
<http://www.epa.gov/iaq/molds/index.html>
- American Lung Association – Biological Pollutants  
[http://www.lungusa.org/air/air00\\_pollutants.html](http://www.lungusa.org/air/air00_pollutants.html)

## **List of Environmental Consultants on Indoor Air Quality**

DMR & Associates, Inc.  
Donna M. Ringo, CIH 11, 14, 16  
William P. Ringo, PhD., CSP  
PO Box 24467  
Louisville, KY 40224  
(502) 245-5289  
(502) 254-1276 Fax  
Barbara McEuen – Contact  
Digital Pager – 478-7164

Douglas W. Peters, CIH, CSP  
Harold G. Peters, P.E.  
3915 Rollington Road  
Louisville, KY 40245-1934  
(502) 241-0001  
(502) 241-7006 Fax

Air Source Technology, Inc.  
2311 Fortune Drive  
Suite 101  
Lexington, KY 40509  
(606) 299-0046 Phone  
(606) 299-0494

Environmental Safety Technologies, Inc.  
Richard D. Miller, PhD., Vice-Pres.  
1815 Brownsboro Rd.  
Suite 200  
Louisville, KY 40206-2560  
Office (502) 893-6080  
Lab (502) 852-5360  
Fax (502) 852-6545

Shauna J. Weis, M.A., President  
1815 Brownsboro Rd.  
Suite 200  
Louisville, KY 40206-2560  
Office (502) 893-6080  
Lab (502) 852-4120  
Fax (502) 893-6088

Environmental Health Management  
Jerry Taylor & Associates  
Phone (606) 254-3211  
Fax (606) 254-6996

Michael Crandall

Bioguard  
Frank Bolin, Robert Zerkle  
(888) 437-6545

Steven E. Rice, R.S.

Michael Crandall  
(513) 531-7110

Environmental Inspections  
Steven E. Rice, R.S.  
1729 Headley Green  
Lexington, KY 40504-4002  
(859) 576-1685  
(859) 260-8895 Fax  
envinsp@aol.com